Preface

Included within this document are both complete papers and (where papers were not submitted) the original abstracts of presentations given during the GIS and Remote Sensing Session, Mapping Session, Hazard and Risk Session, Modeling Session, Treatments Session, and the Poster Session of the Joint Fire Science Conference and Workshop. The Workshop Summary Report and lists of conference sponsors, participants and vendors are also included.

The Joint Fire Science Conference and Workshop, ***Crossing the Millennium: Integrating Spatial Technologies and Ecological Principles for a New Age in Fire Management***, was held in Boise, Idaho on June 15 to 17, 1999. Support and sponsorship was provided by the USDA Forest Service, Bureau of Land Management, National Aeronautics and Space Administration, US Geological Survey, National Park Service, US Fish and Wildlife Service, Bureau of Indian Affairs, International Association of Wildland Fire and the University of Idaho.

In attendance were 239 researchers, managers, students, and vendors. Fourteen percent of those in attendance came from Australia, Brazil, Canada, Germany, Italy, Portugal, Russia, Senegal, Spain, Switzerland, and the United Kingdom. Commercial vendors represented included Country Survey Supply, ERDAS, Inc., ESRI, Inc., Forest Technology Systems, Ltd., Pacific Meridian Resources, and Wagner Fire Suppression, Inc.

Three factors provided the impetus for holding this conference and workshop. First, wildland fire managers are tasked with increasing the emphasis on prescribed fire and other fuel management techniques as part of an effort to reintroduce fire as an important ecological process in wildland systems, and also to reduce the incidence, size, and damage associated with large, high-intensity wildland fire events. Second, the role of the Joint Fire Science Program (JFSP) is to supplement existing fire science and to fund projects for the express purpose of providing "a scientific basis and rationale for implementing fuels management activities, with a focus on activities that will lead to development and application of tools for managers." Finally, technological advances in remote sensing, Geographic Information Systems (GIS), and computer modeling offer great opportunities for developing new management tools. This conference and workshop (funded in part by the JFSP and NASA) sought to improve the wildland fire community's collective knowledge, to foster debate, and spark innovation through information synthesis, sharing and transfer, particularly with regards to these new technologies and their implications for wildland fire management. Through collaboration we can integrate spatial technologies and ecological principles and together, with the proper tools in hand, we can confidently cross the millennium and enter a new age in fire management.

After the opening ceremony, 17 invited papers were presented the first day of the conference. These informative papers summarized and synthesized research and management efforts under 5 topic headings including Overview (3 papers), GIS and Remote Sensing Technologies (4 papers), Mapping (3 papers), Modeling (4 papers), and Treatments (3 papers). The organizers of the conference solicited authors who could provide a state-of-the-science overview of pre-selected topics essential to the wildland fire community as we move into the 21st century. After peer review, these papers will be published in a special issue of the *Journal of Wildland Fire*.

On the second day of the conference individual research projects were presented in four concurrent sessions including GIS and Remote Sensing Technologies, Mapping, Modeling, and two half day sessions, Treatments and Hazard & Risk. A poster session was similarly organized. These contributed and poster papers are contained within this document and were also printed in a 2-volume set of proceedings.

On the final day, a workshop involving over 100 of the participants addressed the results of the conference, and provided ideas for future research and development to accelerate the creation, implementation, and dissemination of new technologies to provide fire and land managers at all levels with the latest and best information and decision tools.

The editorial staff sincerely hopes that these proceedings will benefit the wildland fire community. Once again we wish to thank the Joint Fire Science Program, National Aeronautics and Space Administration, Sponsors, Executive Advisory Committee, Steering Committee, Session Chairs, Vendors, the staff of the Grove Hotel, the conference attendees, and especially everyone who presented a paper during the conference and those hardy and impassioned souls who stayed for the workshop.